STS-112/9A

Flight Readiness Review

Approach and General Description

S&MA held reviews in preparation for the STS-112/9A Flight Readiness Review on 28 August, 4 September and 13 September, 2002 and is ready to proceed toward launch countdown.

FRR Briefing Overview

- **Significant assessments - *discuss***
- **Special topics**
  - **NASA Safety Reporting System (NSRS) - *discuss***
  - **Space Shuttle Hazard Analysis - *discuss***
  - **Space Shuttle FMEA/CIL – *discuss***
- Significant Open work - *none*
- *CoFR Exceptions - none*
- Open Action Items - *none*

Significant Assessments

Orbiter

- MPS Flowliner Cracks
- IMU Slip Ring Broken Wire

SSME

- HPOTP Turbine Outlet Seal Damage

SRB

- BSM Contamination
- APU Fuel Pump Housing Crack

ADDITIONAL ASSESSED ITEMS ARE IN THE BACKUP CHARTS

Significant Assessments

RSRM

- X-Ray Discrepancies

ET

- First Flight of Shuttle Observation Camera STS-112/ET-115

Launch & Landing

- Crawler Transporter Bearing Problem

Space Station

- TVIS Failure and Recovery Status
- Pistol Grip Tool Under-torque

ADDITIONAL ASSESSED ITEMS ARE IN THE BACKUP CHARTS

NSRS Summary

There are no NASA Safety Reporting System reports open that are applicable to STS-112/9A.

Hazard Analysis Summary

There are no new Accepted Risk hazards identified for STS-112/9A.

FMEA/CIL Summary

There are two new Criticality 1 items identified for STS-112/9A.

- **ET Observation Camera Aerodynamically Sensitive Items**
  - **Antenna and Camera Fairing**
    - **Failure Mode - Structural Failure caused by:**
      - **Improper Manufacture of Components**
      - **Failure of Attaching Hardware**
    - **Failure Effect – Potential Loss of Crew /Vehicle due to Debris impact on the Orbiter**
    - **Rationale for Flight**
      - **Component Material and Attaching Hardware Selected, Procured and Tested to Standard Process Requirements**
      - **System Installations and Component Stress Analysis Complete**
        - **Analysis Incorporates Aerodynamic and Delta Pressure Loading, Random Vibration Effects, Thermal Induced Stresses**
      - **Factor of Safety Greater than 2.0 for all New Hardware/Installations**

STS-112/9A Readiness Statement

With the satisfactory completion of identified open work, Safety and Mission Assurance has no constraints to STS-112/9A. S&MA has no issues that constrain any of the mission success criteria.

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STS-112/9A

Flight Readiness Review

Backup Package

Additional Assessments

Orbiter/GFE

- Manipulator Positioning Mechanism (MPM) Liftoff Loads Negative Margin
- Quick Don Mask Assembly Life Certification
- Cold Plate O-Ring Seal
- Salad Bowl Damage
- First Flight/Critical Process Change
  - First Flight of Sleeved Wheel

EVA

- STS-111EMU Battery Discharge Anomaly Follow-up

RSRM

- First Flight/Critical Process Change
  - First Flight of Tooling Change-RSRM Large O-Ring Cordstock Mold

SSME

- STS-111 ME HPFTP Speed Sensor Disqualification

Additional Assessments

External Tank

- ET-115 LO2 Feedline Debond Repair
- LH2 Aft Dome Assembly Error
- Tooling Pin Dropped Impacting LH2 Dome Cap
- First Flight/Critical Process Change
  - Revised LO2 Feedline Screen Installation Hardware
  - Composite Intertank Access Door Material/Redesign
  - LO2 Tank Changes to Accommodate Higher Ullage Pressures

Launch & Landing

- GSE Filters - No Certification
- Possible Oil Contamination on F1

Space Station

- Ammonia QD Issue
- Airlock Sharp Edge